

HSH:WBH

June 4, 1954

Mr. Ludwig Rosenstein
 111 Sutter Street
 San Francisco 4, California

BEST COPY AVAILABLE

Dear Mr. Rosenstein:

Your letter of April 28, 1954, concerning Leslie Salt Company has been turned over to me for reply. The question raised in your letter is an interesting one, and as a result I did some calculations to assure myself that the situation presented no danger. Although we had considered this in the past, no computation had been made because the possibility of excessive contamination seemed very remote. In my calculations, I have made a few assumptions based on the best information available to me. These are:

1. That the evaporation rate from the ponds averages about 40" per year.
2. That your company has about 6 square miles of evaporation surface.
3. The total measured fallout activity in the San Francisco area during the twelve month period of calendar 1952 was 1100 d/m/ft² of surface. This breaks down as follows:

Spring series - Nevada (Tumbler - Snapper)	600 d/m/ft ²
Fall series - Pacific (Ivy)	500 d/m/ft ²
Total fallout activity as of 1/1/53	1100 d/m/ft ²

4. The total activity to fall on 6 square miles (150 x 10⁶ ft²) 165 x 10⁹ d/m.

Total activity per ton of salt:

$$\frac{16.5 \times 10^{10} \text{ d/m}}{8.25 \times 10^5 \text{ tons of salt}} = 2.5 \times 10^5 \text{ d/m/ton}$$

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5. Radioactivity naturally present in sea water:

Total sodium chloride	27.3 grams/l
Total natural activity (K)	562 d/m/l
Natural activity in evaporated NaCl	20 d/m/gram

or
 220×10^5 d/m/ton.

On the basis of the above assumptions and calculations, it appears that the final salt products would contain radioactivity from fallout which would approach only 1% of the naturally occurring radioactivity of sea salt. This could not possibly be harmful.

I hope that the above information is satisfactory. Do not hesitate to communicate if we can be of further assistance to you.

Very truly yours,

Merril Eisenbud, Director
Health and Safety Laboratory

CC: Dr. Walter Claus, Wash. Div. Bio & Med. ✓
Dr. L. Machta, US Weather Bureau, Wash.

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MEMO ROUTE SLIP Form AEC-93 (Rev. May 14, 1953)		See me about this. Note and return.	For concur For signature.	For action. For information.
TO (Name and unit) <i>Gordon Penning Biology and Medicine</i>	INITIALS DATE	REMARKS		
TO (Name and unit)	INITIALS DATE	REMARKS		
TO (Name and unit)	INITIALS DATE	REMARKS		
FROM (Name and unit) <i>Duncan Clark</i>	REMARKS	<i>We think of higher fallout figures might have been omitted, but there seems to be no reason to ^{for} for any real concern about the reply.</i>		
7 ^{DATE} JUL 9 1954				

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